

# PIPK I $\beta$ (F-4): sc-514169

## BACKGROUND

Phosphatidylinositol-4-phosphate-5-kinase (PIPK) synthesizes phosphatidylinositol-4,5-bisphosphate, which regulates various processes including cell proliferation, survival, membrane trafficking and cytoskeletal organization. The PIPK family is divided into type I, type II and type III. Each type of the PIPK family phosphorylates distinct substrates. They contain an activation loop, which determines their enzymatic specificity and subcellular targeting. The phosphatidylinositol-4-phosphate-5-kinase type I consists of three members, PIPK I  $\alpha$ ,  $\beta$  and  $\gamma$ , which are characterized by phosphorylating PI4P on the 5-hydroxyl. PIPK I  $\alpha$ , designated PIPK I  $\beta$  in mouse, is expressed in brain tissue. PIPK I  $\beta$ , designated PIPK I  $\alpha$  in mouse, is also called STM7. PIPK I  $\gamma$  has two variants produced by alternative splicing which are expressed in lung, brain and kidneys.

## REFERENCES

1. Divecha, N., et al. 1995. The cloning and sequence of the C isoform of PtdIns4P-5-kinase. *Biochem. J.* 309: 715-719.
2. Loijens, J.C. and Anderson, R.A. 1996. Type I phosphatidylinositol-4-phosphate-5-kinases are distinct members of this novel lipid kinase family. *J. Biol. Chem.* 271: 32937-32943.
3. Ishihara, H., et al. 1998. Type I phosphatidylinositol-4-phosphate-5-kinases. Cloning of the third isoform and deletion/substitution analysis of members of this novel lipid kinase family. *J. Biol. Chem.* 273: 8741-8748.
4. Tolias, K.F., et al. 1998. Type I phosphatidylinositol-4-phosphate-5-kinases synthesize the novel lipids phosphatidylinositol-3,5-bisphosphate and phosphatidylinositol-5-phosphate. *J. Biol. Chem.* 273: 18040-18046.

## CHROMOSOMAL LOCATION

Genetic locus: PIP5K1B (human) mapping to 9q21.11; Pip5k1b (mouse) mapping to 19 B.

## SOURCE

PIPK I  $\beta$  (F-4) is a mouse monoclonal antibody raised against amino acids 406-540 mapping at the C-terminus of PIPK I  $\beta$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PIPK I  $\beta$  (F-4) is available conjugated to agarose (sc-514169 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514169 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514169 PE), fluorescein (sc-514169 FITC), Alexa Fluor<sup>®</sup> 488 (sc-514169 AF488), Alexa Fluor<sup>®</sup> 546 (sc-514169 AF546), Alexa Fluor<sup>®</sup> 594 (sc-514169 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-514169 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-514169 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-514169 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## APPLICATIONS

PIPK I  $\beta$  (F-4) is recommended for detection of PIPK I  $\beta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PIPK I  $\beta$  siRNA (h): sc-39135, PIPK I  $\beta$  siRNA (m): sc-39136, PIPK I  $\beta$  shRNA Plasmid (h): sc-39135-SH, PIPK I  $\beta$  shRNA Plasmid (m): sc-39136-SH, PIPK I  $\beta$  shRNA (h) Lentiviral Particles: sc-39135-V and PIPK I  $\beta$  shRNA (m) Lentiviral Particles: sc-39136-V.

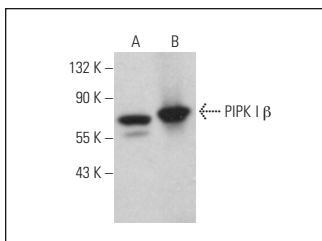
Molecular Weight of PIPK I  $\beta$ : 68 kDa.

Positive Controls: TF-1 cell lysate: sc-2412 or RAW 264.7 whole cell lysate: sc-2211.

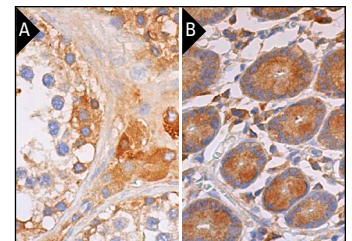
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



PIPK I  $\beta$  (F-4): sc-514169. Western blot analysis of PIPK I  $\beta$  expression in TF-1 (A) and RAW 264.7 (B) whole cell lysates.



PIPK I  $\beta$  (F-4): sc-514169. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in seminiferous ducts and Leydig cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells (B).

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA